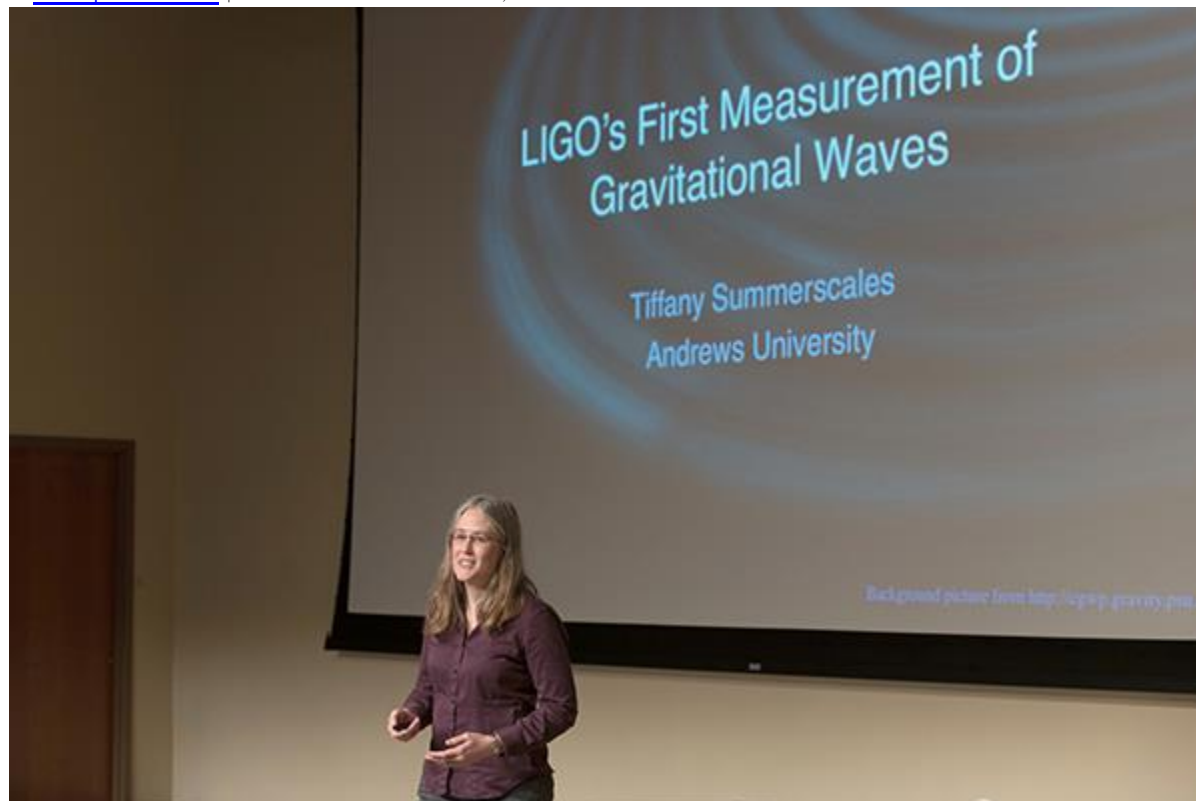


Summerscales Part of Nobel Prize Winning Research

Andrews professor and more than 20 undergraduate students part of gravitational waves research

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Professor Tiffany Summerscales presenting on the LIGO Scientific Collaboration breakthrough discovery of gravitational waves in 2016 (Photo by Darren Heslop, IMC staff photographer)

By: Stephen Payne

Andrews University is excited to announce and congratulate our colleague, Tiffany Summerscales, professor of physics, for her part in the Laser Interferometer Gravitational-Wave Observatory (LIGO) Scientific Collaboration recognized today with a Nobel Prize in Physics for its discoveries of gravitational waves. Three of that project's leaders, [Rainer Weiss](#) of Massachusetts Institute of Technology, [Kip Thorne](#), and [Barry C. Barish](#), both of Caltech, are the specific named recipients of today's Nobel Prize. In announcing the award, the Royal Swedish Academy called it "a discovery that shook the world."

Summerscales, along with her students, represented Andrews University as one of 103 academic institutions in 18 countries that make up the LIGO Scientific Collaboration that worked with Weiss, Thorne and Barish on this project. That research led to confirmation of Albert Einstein's 1916 theory that gravitational waves travel across our universe at the speed of light—stretching space in one direction and shrinking it in the direction that is at right angles. To help confirm the theory, LIGO measures those fluctuations by monitoring two light beams traveling between pairs

of mirrors down pipes running in different directions. The two LIGO detectors are located at Hanford, Washington and Livingston, Louisiana.

“We’re excited to acknowledge and celebrate the brilliance, determination and skill of Tiffany Summerscales and our students (a complete list of participating students is included below) as part of that LIGO Scientific Collaboration that resulted in the landmark Gravitational Waves discoveries that made today’s Nobel recognition possible,” says Margarita Mattingly, chair of the Andrews University Department of Physics and STEM Division. “Also, on a day to day basis, we appreciate Tiffany’s significant and passionate work as a teacher who impacts each one of our Andrews University students who do research, work as teaching and learning assistants, and who learn each day in her classes.”

“At Andrews, we talk about how important it is to Learn Deeply, to emphasize meaningful creativity and scholarship as an essential part of our students’ studies while they are here,” says Andrea Luxton, president of Andrews University. “Professor Summerscales’ work on this Nobel Prize winning effort, accompanied by the work of dedicated students over more than a decade, represents the very best of this commitment on the part of the university to offer transforming education and research, accomplished alongside the very best and most dedicated teachers who make up our faculty.”

Here is a list of Andrews University students who assisted Tiffany Summerscales as undergraduate members of the LIGO Scientific Collaboration:

Nicholas Valles (*BS physics, mathematics, 2008*)
Jonathon Van Ornam (*BS biophysics, 2009*)
Philip Roberts (*BS physics, mathematical studies, 2007; MS mathematics and science, 2009*)
Jason Lee (*BS biophysics, 2008*)
Eric Shull (*BS mathematics, 2009*)
Garret Catron (*BSE engineering, 2011*)
Andrew Hoff (*BS physics, 2011*)
Chris Greenley (*BS physics, mathematical studies, 2013*)
Michael McMearty (*BS physics, mathematics, 2015*)
Belinda Cheeseboro (*BS physics, mathematical studies, 2015*) [*current LIGO member, West Virginia University*]
William Tritch (*BS physics, mathematics, 2014*)
Fritz Miot (*BS biophysics, 2015*)
Jonathan Wheeler (*BS physics, mathematical studies; BSE engineering, 2016*)
Shannen Velasquez (*BS physics, in progress*)
Isabel Stafford (*BS physics, mathematical studies, 2016*)
Gia Smart (*BS physics, in progress*)
Richard Clark (*BSM music, 2017*)
Jacob Willard (*BS physics, BA music, in progress*)
Zachariah Swerdlow (*BS physics, mathematical studies, in progress*)
Lukasz Krzywon (*BS physics, mathematics, 2017*)
Darrick Horton (*BS physics, BSE engineering, in progress*)
Kelsey Rook (*BS computer science, in progress*)

When describing how faith and learning intersect in her research, Tiffany Summerscales says that she believes that “God is Creator and that His creation shows us elements of His character. Studying the universe has shown me that God is imaginative and loves variety. His creation also has such great depth that we will never run out of surprises or things to explore. And as a scientist and a Christian, I absolutely love that.” You can read the entire interview on Summerscales’ Gravitational Waves research, “Historic Wavelengths,” in the winter 2016 issue of the Andrews University FOCUS [here](#).

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